

**We Claim:**

*Sub D1*

*Sub D1*

*Sub E2*

*Sub E3*

1. A process for testing genomic DNA for conditions, whether inherited or not inherited, comprising:

- making a solution comprising the genomic DNA;
- adding a primer substantially complementary to a diagnostic section of the genomic DNA, selected from the group consisting of a primer having no mismatch bases and a primer having at least one mismatch base;
- mixing a DNA polymerase into the solution;
- amplifying the diagnostic section;
- capturing amplified polynucleotide strands to a solid support; and,
- detecting captured amplified polynucleotide strands.

2. The process of claim 1 wherein capturing amplified polynucleotide strands comprises hybridizing the strands to a probe.

3. The process of claim 2 further comprising denaturing amplified polynucleotide strands to form single-stranded polynucleotides.

4. The process of claim 3 wherein denaturing comprises separating double-stranded polynucleotides with a process selected from the group consisting of heat denaturing and chemical denaturing.

5. The process of claim 4 wherein denaturing comprises chemical denaturing.

6. The process of claim 5 wherein the probe comprises a polynucleotide for hybridizing to amplified polynucleotide strands.

7. The process of claim 6 wherein the solid support comprises a microtiter plate.

*SWP2*

8. The process of claim 7 wherein step g comprises adding a reporter label to the solution.

9. The process of claim 8 wherein the reporter label is selected from the group consisting of enzyme labels, fluorescence labels, luminescent labels, vesicle labels and particle labels.

10. The process of claim 9 wherein the reporter label comprises an enzyme label.

11. The process of claim 7 wherein the microtiter plate comprises a well coated with streptavidin.

12. The process of claim 11 wherein the polynucleotide probe further comprises a biotin compound.

*Sw-1 D2-13. S-1 D3*

13. A process for detecting a mismatch base in a diagnostic section of genomic DNA for conditions, whether inherited or not inherited, comprising:

- obtaining the genomic DNA;
- mixing the genomic DNA with a primer substantially complementary to the diagnostic section of the genomic DNA, selected from the group consisting of a primer having no mismatch bases and a primer having at least one mismatch base;
- selectively amplifying the diagnostic section from the genomic DNA;
- capturing amplified polynucleotides to a solid support; and
- quantifying any complex attached to the solid support.

14. The process of claim 13 further comprising separating amplified polynucleotides of step c into single-stranded polynucleotides.

15. The process of claim 14 wherein separating comprises chemical denaturing.

*50%*

~~16. The process of claim 15 further comprising attaching a reporter label to the complex for quantifying presence of the complex.~~

~~17. A kit for testing genomic DNA for conditions, whether inherited or not inherited, comprising:~~

~~a) a receptacle containing a primer having a nucleotide sequence substantially complementary to a diagnostic section of the DNA;~~

~~b) a solid support; and,~~

~~c) a receptacle containing a reporter label.~~

~~18. The kit of claim 17 further comprising a receptacle containing a probe for attaching to amplified diagnostic sections.~~

~~19. The kit of claim 18 further comprising a receptacle containing denaturing compound.~~

~~20. The kit of claim 17 wherein a capture probe is attached to the solid support.~~